

PNA fragments and have all of a cDNA, with at least one fragment of which mutation is to be assayed, wherein said fragment is selected from the group consisting of one or more nucleic acid fragments and one or more PNA fragments, thereby hybridizing fragments having a mutation;

(B) binding a labeled protein specifically [binding] to a mismatched base pair occurring between the hybridized fragments having a mutation; and

(C) identifying a fragment bound by the labeled protein by detecting the label, thereby detecting a nucleic acid and/or PNA fragments having a mutation.

6. (Three Times Amended) The method of claim 1, wherein the method further comprises introducing a label into a nucleic acid and/or PNA fragment to be assayed for mutations, and detecting the label of the nucleic acid and/or PNA fragment to be assayed for mutations, are carried out in order to identify and quantify the fragment having a mismatched base pair.

9. (Three Times Amended) A method for detecting a nucleic acid fragment and/or PNA fragment having a mutation, comprising the steps of:

(A) hybridizing at least one full-length cDNA fixed on a substrate, selected from the group consisting of one or more nucleic acid fragments and one or more PNA fragments and have all of a sequence of a cDNA, with at least one fragment of which mutation is to be assayed, wherein said fragment is selected from the group consisting of one or more nucleic acid fragments and one or more PNA fragments, thereby hybridizing fragments having a mutation;

(D) treating a mismatched base pair occurring between the hybridized fragments with a protein specifically recognizing and cleaving the mismatched base pair to cut the hybridized fragments at the mismatched base pair, or to remove at least a part of one strand of the fragments hybridized from the mismatched base pair;

(E) labeling a fragment remained on the substrate after the cleavage or
removal; and
(F) identifying the labeled fragment by detecting the label, thereby
detecting a nucleic acid and/or PNA fragment having a mutation.
